

REMARKS

Claims 1-20 are all the claims pending in the application. By this Amendment, independent claims 1-8 and 11 are amended, as well as dependent claims 2 and 11. Additionally, new claims 15-20 are added.

In view of the foregoing amendments and following remarks, applicant respectfully requests withdrawal of the rejections and objections, and allowance of the claims.

I. Examiner Interview

Applicant thanks the Examiner for the courtesies extended to applicant's representatives during the October 1, 2010 telephonic interview. The Interview Summary has been received, and the Statement of Substance of Interview is being filed concurrently with this paper.

In accordance with the interview, applicant agrees to not amend the specification to change the term "rate" to "ratio". To the extent that the amendment to the specification and drawings was not entered, per the Examiner's explanation, applicant accepts the non-entry of the amendment.

The claims have been amended as shown above in view of the interview.

If the amendment to the specification and drawings was entered and further amendment by the applicant is required to address this issues, applicant respectfully requests that the Examiner contact applicant so that a Supplemental Amendment can be provided if needed.

II. Objections to specification and drawings

The Examiner objects to the specification and drawings due to applicant's previous attempts to amend the specification to require "ratio" instead of "rate". Applicant respectfully requests that the Examiner not enter those amendments, and applicant accepts the presence of "rate" in the specification and drawings. Alternatively, if the Examiner believes that amendment is necessary, applicant respectfully requests that the Examiner contact applicant's representatives so that a Supplemental Amendment may be entered, or, the Examiner may correct by Examiner's amendment if preferable to the Examiner.

III. 35 U.S.C. § 112, 1st paragraph

The claims stand rejected under 35 U.S.C. § 112, 1st paragraph due to lack of written description with respect to the term "ratio".

As shown in the foregoing amendments, applicant has amended the claims to more clearly recite the features including the blending formula.

Applicant respectfully requests withdrawal of the rejection, and allowance of the claims.

IV. 35 U.S.C. § 101

Applicant acknowledges with appreciation the withdrawal of the rejection under 35 U.S.C. § 101.

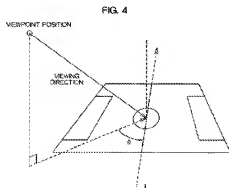
V. Claims as Amended

As shown in the foregoing amendments, applicant has amended the claims in a manner that is believed to overcome the pending rejections.

For example, the independent claims are amended to recite the following features:

1. *changing a value $\sigma 1$ that varies based on an angle θ between a viewing direction and a base line, said angle θ having a value between 0 and 2π , said value $\sigma 1$ relating to an image composition*
2. *generating a composite image composed of a pixel value $P0$ representing a base model, which is added to a first pattern image data $P1x\sigma 1$ representing a first model, to generate and store a new pixel value $P0+P1x\sigma 1$, said new stored pixel value $P0+P1x\sigma 1$ being added to a second pattern image data to generate and display the composite image on the surface of a substantially planar game field.*

For a further explanation of the above, applicant refers the Examiner to paragraphs [0031] and [0039] of the published application, and FIGS. 4, 6 and 7A/7B of the drawings. FIG. 6 illustrates a base model B, a first model P and a second model Q. A viewing direction and a viewpoint position are also disclosed.



[0034] The composition rate change section 33 refers information relating to presentation conditions, such as viewpoint, viewing direction, light source position etc. input from the presentation control section 32, and changes respective composition rates (image composition rates) for a plurality of image data used in display of the game field based on the referenced information. For example, as shown in FIG. 4, the composition rate change section 33 calculates an angle θ (if the game field is planar, as shown in FIG. 4, this may be an angle formed by a vector obtained by projecting a vector of the viewing direction to that plane, and a vector of a base line L, directions thereof by the viewing direction with respect to the base line L, (if the game field is flexibly arranged on X, Y coordinates, this may be a line segment extending in the X axis or Y axis direction) set virtually on the game field, changes image composition rate based on predetermined equations according to the angle θ , and outputs the image composition rate after change to the display control section 34.

[0031] For example, when θ changes from 0 to 20, these equations may define composition rates $c1$, $c2$ respectively relating to two image data items as follows:

$$\begin{aligned} c1 &= \sin \theta \sin \theta + 20 \cos \theta \sin \theta \\ c2 &= 1 - \sin \theta \sin \theta - 20 \cos \theta \sin \theta \\ c3 &= 1 - \sin \theta \sin \theta - 20 \cos \theta \sin \theta \\ c4 &= 1 - \sin \theta \sin \theta - 20 \cos \theta \sin \theta \end{aligned}$$

[0032] In that way, when θ is 0, $c1$ becomes 20, and $c2$ becomes 80, while when θ is 20, $c1$ becomes 65, and $c2$ becomes 35. Here, adding is such that $c1+c2$ becomes a fixed value of 100, but does not have to be a fixed value. In that case, a transparent pixel image (composite image) will be slightly transparent (the background will show through). In FIG. 4, a game field of a soccer game has been used as one example, and so it does not matter if the game field is fixed within three-dimensional coordinates, but there are also cases where, depending on the game type, a game field constituted by a stage moves. In this type of case, by shifting according to an angle formed by the viewing direction and the vertical base line of the game field, the image composition rate is gradually changed.

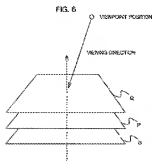


FIG. 7A



FIG. 7B

[0039] The display control section 34 performs rendering for the display storage section 14 sequentially from farthest away from the viewpoint. That is, a texture for basic image data is first set in the base model and then rendered, by the rendering control section 13, and the results of rendering are stored in the display storage section 14. Then, the rendering control section 13 further sets image composition rate relating to the first pattern image data that has been determined by the composition rate change section 33 for the first pattern image data, and sets the first pattern image data to which the image composition rate has been set as a texture. For the first model P and performs rendering, and composites (blends) that rendering result with image data being stored in the display storage section 14 at that point in time. Specifically, at the point in time where the rendering result is being blended, a result of adding a pixel value P0 corresponding to a pixel having the image composition rate set among the pixel values stored in the display storage section 14, to multiplication pixel value P1 having composition rate set (base image composition rate $c1$), that is a value of $100 \times P1 \times c1$, is set as a new pixel value. The same processing is then carried out for the second pattern image data, its image composition rate determined by the composition rate change section 33 is set relating to the second pattern image data, the second pattern image data having the composition rate set is set and rendered as a texture, for the second model Q, and that result is blended with a result output of the display storage section 14 at that point in time.

This entire blending process is performed sequentially, starting from the furthest away from the viewpoint. As explained in detail in paragraph [0039], rendering is first performed for

the basic image data of the base model B, and the result is stored (as explained below, this includes pixel P0).

Then, the first pattern image data is set as a texture for first model P. This texture is shown in FIG. 7A. The blending of the base model B and the first model P is performed by taking the pixel value P0, which is stored at that time, and is related to the base model B, and adding the pixel value of the first model P thereto, which is defined as $P1+\sigma1$, to generate the new pixel value, which represents the blending of the base model B and the first model P, which is then stored. Thus, $P0+P1+\sigma1$ is the stored value.

As also explained in paragraph [0039], the same processing is carried out for the second model, so that the stored value (i.e., $P0+P1+\sigma1$) is blended with the second model Q in the same manner. In other words, a pixel value of the second model Q represented by $P2+\sigma2$ is added to $P0+P1+\sigma1$. Thus, $(P0+P1+\sigma1) + (P2+\sigma2)$ becomes the stored blended value.

The result of the above blending process is the composite image that is displayed.

It should be noted that the values of $\sigma1$ and $\sigma2$ vary based on an angle θ between the a viewing direction and the base line direction, as noted at paragraphs [0030], [0031], and [0032], for example, as θ varies between 0 and 2π .

The dependent claims are believed to be allowable by virtue of their dependence from the foregoing independent claims, as discussed above.

VI. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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